

GIS NEWS AND INFORMATION

March 1995 (No. 3)

Public Health Conferences and Training Opportunities

RECENT

1. The **1995 CDC and ATSDR Symposium on Statistical Methods** "Small Area Statistics in Public Health: Design, Analysis, Graphic and Spatial Methods" was held at the Westin Peachtree Plaza hotel, Atlanta, January 25-26, 1995 with a GIS Short Course, taught by Charles Croner (CDC NCHS), Fred Broome and Jonathan Sperling (Census Bureau), on January 24. Congratulations to our Director, Dr. David Satcher, and the Program Committee (chaired by Jay Smith, NCEH) for an excellent symposium.

2. The "International Symposium on Computer Mapping in Epidemiology and Environmental Health" was held at the Hyatt Regency Downtown, Tampa, February 13-15. Many of our CDC and ATSDR GIS colleagues participated in the program.

FUTURE

3. The National Center for Health Statistics will host the **1995 Public Health Conference on Records and Statistics (PHCRS)**, July 17-20, at the Mayflower Hotel in Washington, D.C. A session entitled "Public Health Applications Using Geographic Information Systems," organized and chaired by Charles Croner, is planned for Monday, July 17, from 3:30-5:00 p.m. The conference is free. For conference information, please contact Barbara Hetzler (301) 436-7122, in Hyattsville, MD.

4. Given the strong staff turnout for the GIS Short Course at the 1995 CDC and ATSDR Symposium on Statistical Methods, a sequel

GIS program focusing on advanced spatial statistical techniques may be planned for September. It would also give CDC and ATSDR staff an opportunity to showcase GIS projects. Information will be forthcoming as this possibility develops.

OF RELATED INTEREST

5. A one-day program "Cultural and Demographic Data Security Conference", sponsored by OMB's Federal Geographic Data Committee, will be held on April 25, 1995, at the National Archives and Records Administration Conference Facility, College Park, Maryland. This should be of particular interest to CDC and ATSDR administrators as the issues regarding data sharing among Federal agencies and data sponsors continue to evolve, and in light of confidentiality guidelines in Section 308(d) of the Public Health Service Act.

These concerns will become even more acute as georeferenced digital database products are developed. Program Highlights (from the announcement)- **KEYNOTE ADDRESSES:** Mr. Rob Veeder, Internal Revenue Service "Overview of Privacy Principles"; Mr. Scott Charney, Depart of Justice "Current Issues in Computer Security"; **PANEL DISCUSSION:** "Confidentiality Issues Affecting Data Sharing Among Federal Agencies"; "Data Exchange, Accessibility, and Security Issues"; and **TECHNICAL PRESENTATIONS** (to be announced). The conference is free. The conference contact is Ms. Leslie Godwin, Bureau of the Census, (301) 457-1056.

6. The 1995 National Geodata Forum will be

held at the Hyatt Regency Hotel, Crystal City, VA, May 7-10. The purpose of the forum is to shape the next steps in the evolution of the National Spatial Data Infrastructure (NSDI), signed into law on April 11, 1994, by President Clinton. For registration information, please contact Cynthia Stine, American Congress on Surveying and Mapping, Bethesda, MD, at (301) 530-1619.

NEWS FROM CDC/ATSDR GIS USERS

(Please respond directly to these colleagues on any issues)

BIRTH DEFECTS: From Paula Yoon, EIS Fellow, Division of Birth Defects, NCEH. I have begun a GIS project which involves mapping birth defects in metropolitan Atlanta. I would like to be added to the GIS User Group so that I can see what other people are doing. Thanks.

CHILDHOOD IMMUNIZATION (REGISTRIES): From Jeff Buckingham, Kids Immunization Database System (KIDS) Coordinator, Philadelphia Department of Public Health. Philadelphia is one of about 15 projects nationwide currently funded by the Robert Wood Johnson Foundation and the All Kids Count (AKC) initiative in Atlanta to develop computerized Immunization Registries. The project started in November of '92 and will continue for four additional implementation years.

Based on some of my previous experience with a mapping project in Philadelphia municipal government in 1985 (mainframe; exciting; but ultimately unsuccessful), I lobbied for inclusion of geocoded fields in the Registry. With other divisions in the department using Atlas GIS, we went in that direction and seem to be getting

good service and support from the vendor, Strategic Mapping, Inc.

The national meeting for the AKC took place Mar. 2-3 in Atlanta and was very interesting. Of interest to a GIS users group might be the fact that at least two other AKC sites are utilizing mapping/geocoding - Richmond, VA and Arizona. If it's ok with you, I'll inform them of the existence of the CDC based group. The AKC Registries in general and the State Registries in particular are working closely with CDC and I'm sure that any site will be pleased to know that there may be additional support at CDC for very specific facets of their projects.

Last item of interest: a Philadelphia area SIG for users of Atlas GIS met for the first time recently. Many interested participants and existing users including managed care organizations and hospitals. Does Atlas GIS have an existing body of users in CDC? Again thanks for the e-mail. I'd welcome any news from the CDC users group in the future.

CHILDHOOD IMMUNIZATION (SURVEY DESIGN): From James Gaudino. I'm a CDC medical epidemiologist, NCCD PHP/DRH/PIHB, assigned as the MCH epidemiologist for the state of Washington. Are there any folks at CDC that can HELP ME WITH ONE PROJECT--I'm trying to design a survey on childhood immunization status in WA and wondered if I could find out if anyone has used GIS for state regional sampling frame designs? PS: how can I (as a CDC person) obtain access to the census STF and enhanced TIGER files?

HANTAVIRUS: From Ralph T. Bryan- I am with NCID, assigned to Albuquerque to oversee our hantavirus field activities. We are indeed very interested in GIS and remote

sensing applications in regard to hanta and other zoonotic/vector-borne infectious diseases. Through our collaborations with the Univ. of NM Dept. of Biology and the NM Dept. of Health, some work has already been initiated with GIS - although I am not directly involved. We do anticipate, however, expanding GIS applications and I would be grateful if you would add me to your GIS E-mail users group. I have no direct experience with GIS myself as yet, but suspect the need may arise. Certainly, however, I will be involved in making sure this technology gets put to use in our research efforts out here so I will appreciate staying informed. Thanks again - I'll look forward to hearing from you periodically. Best regards, Ralph

LEGIONELLA: I am in the Respiratory Diseases Epi Section, DBMD, and am trying to answer the question "Why were there so many cases of Legionnaires' disease during the summer of 1994?". I have received climatic data for numerous sites along the East Coast of the US (the areas with the greatest number of outbreaks in 1994) and am trying to use heating and cooling degree days as a surrogate for air conditioner use, assuming that the more use of air conditioners (namely cooling towers) the more the potential for spread of Legionella. There are a number of other environmental factors that may be important in determining the increased number of outbreaks during 1994. Do you have any recommendations on who might be able to direct me regarding appropriate use of GIS? Please contact **Dan Jernigan**, NCID.

MALARIA (using Global Positioning Systems): From **Allen W. Hightower**, NCID The malaria GIS project in Western Kenya is going quite well. We are using a pair of GPS units in differential mode to achieve accuracies

of 2 meters or less to map out the villages where we have been conducting a multi-disciplinary study (entomology, parasitology, clinical disease, immunology) for two years. Households, mosquito breeding sites, seasonal rivers, roads, and other points of interest are being mapped. So far, two villages have been completed. Ground truthing efforts to check results have verified our impressions that the GPS differential system has been working quite well.

ONCHOCERCIASIS (using Global Positioning Systems): From **Frank O. Richards**, NCID. In April, I will attend the NASA/AIAA Life Sciences and Space Medicine Conference in Houston TX (April 3-5, 1995) to present a paper: F. Richards, R. Luján, P. Bennett, R. Klein and J. Castro. "Community inventories in onchocerciasis control activities in Guatemala: the role of GPS" (Given in the Remote Sensing and Global Epidemiology Section).

Technical Issues:

1. From **Jay H. Kim**, NIOSH: I have prepared maps on Atlas GIS windows version. Unfortunately, I cannot put the CDC logo on them. To do so, I have to export the maps into a word processor working on Windows, losing some details, and then the logo to the word processor. Atlas GIS has its own type of file that cannot communicate with other applications. Their brochure announcing a new version states that maps can be saved in a windows meta file, so they can be transported to other applications. I do not have that version, yet.

I understand that you bring in maps from Atlas Pro, the DOS version, to Atlas GIS. In DOS

version, I know that the maps can be saved in meta file format. Have you ever tried moving maps from Atlas GIS windows to Atlas Pro DOS? If you have done so, would you let me know?

Response from **Linda W. Pickle**, NCHS: I sympathize with you -- I have complained to Strategic Mapping about their Windows package that does less than the earlier DOS one. My workarounds:

(1) You can capture the map image to the clipboard using one of the graphics image utilities, e.g. HijaakPro or CorelCapture, then use Windows "paste" to put it into another program where you can edit it.

(2) From AtlasGIS (Windows) write out the map to a file (using the "write to file" box in the Windows printer control panel). If you write to a file type that HijaakPro can read in, then you can convert it to anything else, e.g. a .pcx or .wmf file and go from there. This means you don't have to wait for the new Atlas GIS, which wasn't shipping yet last month when I asked.

(3) For editing graphics images, a wordprocessor is usually pretty crude. Better to use CorelDraw, HarvardGraphics, Adobe Illustrator, or one of the other graphics packages. These should allow you to place a .pcx logo file on top of the map.

(4) I think the conversion between the DOS and Windows file formats in AtlasGIS only works one way. You can't go backwards.

2. GIS Training: From **Alan Friedlob**, Chief, Health Services Research and Evaluation Branch, Division of STD/HIV Prevention, NCPS. I have an employee, a public health advisor with extensive experience, that I would like to have trained in GIS methods/techniques. What would you recommend? Who are the persons in NCPS (are there) who are into computer mapping and analysis? Any

suggestions would be appreciated?

3. NASA and Health (use of satellite technology): From **Chet Moore**, NCID. Members may be interested to know more about the NASA CHAART (Center for Health Applications of Aerospace Technology) program. A brochure is available from Byron Wood (Byron_Wood@qngate.arc.nasa.gov), that gives the pertinent details.

Current CDC/ATSDR GIS Projects (preliminary, subject to your corrections)

Centers for Disease Control and Prevention

NCID

1. Guinea Worm Eradication Tracking System: sub-Saharan Africa; AtlasGIS and GPS; Contact **Allen Hightower**.
2. Malaria control: Western Kenya; AtlasGIS and GPS; Contact **Allen Hightower**.
3. Onchocerciasis control: Guatemala; Atlas GIS and GPS; Contact **Frank Richards**.
4. Dengue surveillance and control: Puerto Rico; ArcInfo and S-plus; Contact **Paul Reiter** and **Amy Morrison**.
5. Asian Tiger Mosquito (*Aedes albopictus*): U.S. distribution; AtlasGIS; Contact **Chet Moore**.
6. Arboviral Encephalitis: Rapid risk assessment following natural disasters, Alabama, Florida, and Georgia; TNTmips, Landsat TM scenes; Contact **Chet Moore**.
7. Lyme Disease: Risk in Maryland; IDRISI and Landsat TM and SPOT images; Contact **Joe Piesman**.

NCEH

8. Midwest Private Well Study: N. Dakota, S. Dakota, Missouri, Nebraska, Illinois, Kansas, Minnesota, Wisconsin, Iowa; ArcInfo, ERDAS, MapInfo; Contact **Kent Gray**.
9. Adverse health outcomes: diseases and health indicators in Dade county, Florida; ArcInfo and ArcView; Contact **Philip Talboy**.
10. Bone cancer: occurrence in relation to DOE uranium facilities (sites to be determined); AtlasGIS; Contact **Owen Devine**.

NCHS

11. National Health and Nutrition Examination Survey (NHANES): geocode to block address (90 percent complete); Contact **Wilbur Hadden**.
12. National Health Interview Survey (NHIS): geocode selected years (in process); Contact **Paul Williams**.

NCIPC

13. Violent and firearm-related injuries: morbidity and mortality surveillance, DeKalb county; AtlasGIS; Contact **Alex Crosby**.

NIOSH

14. Respiratory diseases (18 selected conditions): U.S. by county; AtlasGIS; Contact **Jay Kim** and **Ki Moon Bang**.

Agency for Toxic Substances and Disease Registry

(Note: The overall ATSDR GIS Spatial

Analysis Program was begun in August, 1990; Unless otherwise noted, projects use ArcInfo and ArcView: Contact **Henry Strickland** and **Monty Howie**; Administrative oversight for cooperative agreement with 22 State health departments to assess public health impact of hazardous waste sites: Contact **Rick Gillig**)

Editor: ATSDR GIS staff are an important source of TIGER and STF files, ZIP Code boundaries, environmental and digital elevation models, clustering software and excellent GIS advise.

15. Federal Facility Information Management System: Public health assessment prototype, Weldon Spring and Oak Ridge, former DOD and DOE sites; Contact **Mark Evans**, **Kevin Liske**, **Betsy Hunter**, **Ron Parker** and **Michael Perry**.

16. Minority Health Initiative: Demographics within 1-mile radius of National Priority List (toxic waste) sites, U.S.; Contact **Janet Heitgard**.

17. Primary brain cancers: Distribution in Florida, California, New York, Massachusetts, Pennsylvania and Virginia; Also uses Matchmaker 2000 for geocoding and Cluster software; Contact: **Virginia Lee** and **Wendy Kaye**.

18. Contaminant transport modeling: Groton, Massachusetts (completed) and Elkhart, Indiana (90 percent); GIS Plus; Contact **Morris Maslia**.

19. Public Health Assessment: Kennicott Utah Copper, Salt Lake county, Utah; Contact **John Mann**, **John Crellin**, **Don Gibeaut** and **Danika Holm**.

20. Cancer mortality and birth outcome: Cohort study, 8-county area in Washington state; Contact **Catherine Clay**.

21. Health Statistics Reviews: Analysis of health outcomes within proximity of contaminated

sites, various states; Contact **Catherine Clay** and **Virginia Lee**.

22. Toxic Plume "Fate" Modeling of 1,3 Butadiene: Associate health outcomes with toxic cloud, Robstown township, Nueces county, Texas; Contact **Lynette Benson**.

23. Modeling Point Source of 1,1,1-Trichloroethane: EPA SCREEN Model for 5,000 meter radius plume; Arc/TIN surface krieging; Contact **Bill Henriques**.

24. Tracking American Badger: sentinel species movement in Rocky Mountain Arsenal contamination site, Denver; Contact **Bill Henriques**.

25. Classification of SPOT satellite data: Land use and land cover, Charleston, S.C.; PCI Image Processing Software; Contact **Bill Henriques**.

ONLINE GIS RESOURCES

Manual of Federal Geographic Data Products (describes all national U.S. federal geographic data products available to the public)
<http://info.er.usgs.gov/fgdc-catalog/title.html>

GIS Frequently Asked Questions (maintained by Lisa Nyman, Geography Division, Bureau of the Census)
<http://www.census.gov/geo/gis/faq-index.html>

NCGIA (National Center for Geographic Information and Analysis)
<http://www.ncgia.ucsb.edu/>